DISTRO HOPPER

We've tapped GCHQ's communications to find out what's going on in distro land.

Emmabuntüs

Linux for humanitarians.

Different situations need different distros. For many users it's important to having a solid base system that's around 700MB, making it easy to download. This is usually backed up by a great set of repositories that combine to give you access to almost all the software you need. Other times, it's really important to have everything you need installed from the start. Perhaps it's going to be installed somewhere without a good internet connection, or perhaps the users won't want to install software themselves. Emmabuntüs fits into this second category.

For recycled hardware

It's designed for older computers for use by children. It has bucket loads of software in its 3.3GB download. Much of it will be familiar to most Linux users, but there's also a few unusual choices such as OOo4kids. This, you probably won't be surprised to learn, is a version of OpenOffice designed for children (**http://wiki.ooo4kids.org**).

There's so much choice in Emmabuntüs, it can take some time just to get to know the applications.

Basically, it just has a simplified interface to make it a bit more friendly.

Xfce is a good choice for a desktop given the intended audience, and we like that it asks the user if they want a dock at the bottom, and if they want to install non-free software (Flash, etc). If you're looking at a distro for older computers to use in a school or community group, Emmabuntüs is definitely worth a look. Even if you decide to go with something else, it's sure to help you find a useful bit of software or two.

Picore

### Possibly the fastest Linux distro on the Raspberry Pi.

TinyCore Linux is a technical marvel. It's a full Linux distro, including a graphical desktop, and it's only about 15MB. However, it's not the size of your distro that matters, it's what you do with it.

The small size of TinyCore allows it to boot in a slightly unusual way. Instead of loading files from disk each time something is needed, the entire system loads itself into RAM when the system boots. This results in an OS that's startlingly fast even on modest hardware. Modest hardware like, for example, the Raspberry Pi, and the TinyCore team have now released a build for the Pi called PiCore.

Compared to any of the other Linuxes for the Raspberry Pi, PiCore is startlingly quick. There's almost no lag when opening applications even on a non-overclocked Pi. It's a refreshing change from Raspbian, which can leave the user waiting at times.

It's hard to recommend PiCore to people new to Linux because its architecture does add a little complexity, and the RAM storage makes it a little too easy to lose all your files when you reboot if you're not careful.
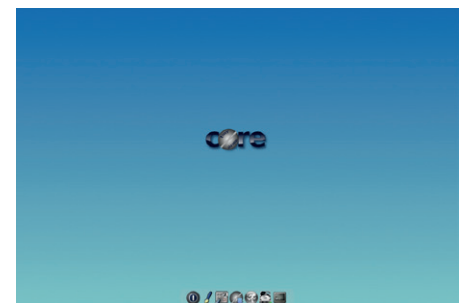
There's not much software included by default in Picore, but plenty more can be downloaded from the internet.

However, experienced Linuxers looking for a little more snap on their (low-powered machine) should seriously consider it. After all, it's only 24MB to download and try.

Bodhi 3

Seek and ye shall find Enlightenment.

It's impossible to separate Bodhi and Enlightenment (a window manager). In fact, it's one of the only popular distros that's set up purely for Enlightenment, and so any new user is going to notice this desktop far more than the underlying distro.

Enlightenment has some real strong points. It's impressively fast for a desktop with so many graphical effects. We like how it looks, though some people may find the default setup a little gaudy with shimmers and glows everywhere. The biggest let down is the lack of Enlightenment-specific software. While both GTK and Qt have a large stash of programs that will fit in with the look and feel of a desktop, there's very little built specifically for Enlightenment, so most software looks out of place.

Underneath this, Bodhi is a solid distro based on Ubuntu LTS. Unfortunately, the Bodhi team have dropped support for ARM chips in this release. They found it simply too much work for too little gain, which is a disappointing, though understandable,

Beauty is in the eye of the installer, and plenty of people like the eye-candy of Enlightenment.

decision. If you want to run Enlightenment, Bodhi represents the best choice for most users. This also means that the Bodhi live CD is the best way to try the desktop.

Linux From Scratch

Going beyond off-the-shelf Linux distros.

When most distros are released, you can go to the project's home page and download an ISO. Alternatively, you may be able to update a system that's already running. Neither of these is possible with Linux From Scratch (LFS) because, well, it's a book. You can read it online in HTML form, or download a PDF.

LFS isn't really a distro in the usual sense of the word. Instead it's a guide for creating a system that doesn't need a distro. After all, a distro is really just a collection of software, and that software is perfectly accessible on the upstream project's websites. So, instead of downloading a single image with all the things you need, you download them separately, and this book is a guide for combining everything into a working

system. The start of March saw the release of version 7.5 of this book, which guides the user through the most recent versions of the upstream projects.

Different people have different takes on LFS, but the two most common opinions are either that it's the best way to learn about the internals of a Linux system, or that it's just a way to waste days compiling hundreds of pieces of software. Here at Linux Voice, we see the appeal of a system such as LFS, and it certainly has its place. However, most users wanting a distro they have control over will be better served by the likes of Gentoo and Arch. That said, if you ever want to know about what goes on underneath the various distros, LFS is an excellent place to start.
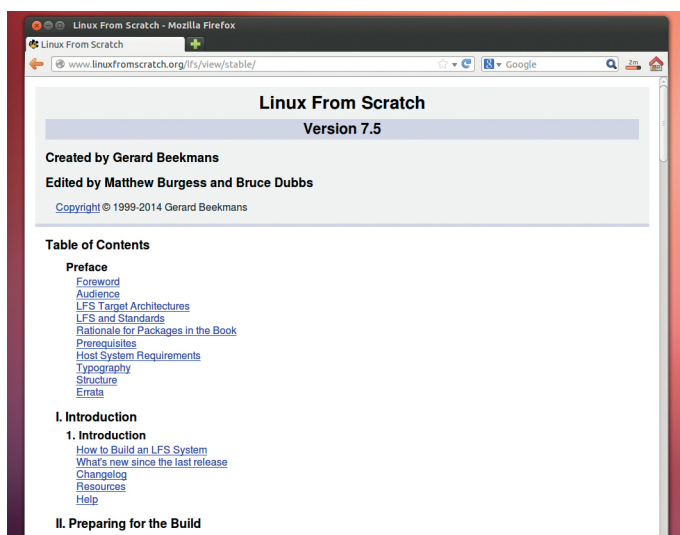
It's the ultimate geek quest, but compiling a full system takes time, especially on older hardware.

SystemD vs Upstart vs sysV init

When you turn your computer on, the bootloader loads the kernel into memory, then starts the init system. Traditionally, this init system has been a series of scripts that start everything running, and enables you to stop and start servers once the system is fully booted up.

These scripts (often called systemV init) kept Unix systems booting long before Linux was invented. However, two newer systems have been created: systemD and Upstart. These both offer more advanced features than the older scripts. Loosely speaking, Ubuntu and most derivatives use Upstart, while most other distros use systemD and a few still use systemV.

Debian, a slow mover in the distro world, had clung onto systemV up until the start of 2014. However, the technical committee was asked to vote on what direction Debian should go. In simple terms, systemD offered more functionality, while Upstart supports Debian flavours with other kernels (the distro can use the FreeBSD kernel, or GNU's Hurd). One sticking point was the fact that Canonical (which develops Upstart) requires all code contributors to sign a Contributor Licence Agreement (CLA) giving Canonical control over their contribution, including the power to build non-free software based on it.

In the end, systemD won after the committee chairman (Bdale Garbee) gave the casting vote. Following this, Mark Shuttleworth announced that Ubuntu would drop Upstart (in 14.10) leaving systemD as the init method on almost all distributions of Linux.

Not everyone is happy about this. Some users feel that systemD goes against the Unix spirit by being monolithic and logging in non-human-readable binary format. Since it doesn't play nicely with other Unix-like systems (such as the BSDs), anything that relies on systemD's features also won't work on these systems. There is some truth to these complaints, but unless anything changes, it will soon become hard to find a distro that doesn't use systemD.